

POTENTIOMETRIC SURFACE OF THE CLAYTON AQUIFER IN GEORGIA, OCTOBER 1990

U.S. GEOLOGICAL SURVEY



Prepared in cooperation with

GEORGIA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
GEORGIA GEOLOGIC SURVEY

CITY OF ALBANY
WATER, GAS, AND LIGHT COMMISSION

Open-File Report 91-208

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Doraville, Georgia

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U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information
write to:

District Chief
U.S. Geological Survey, WRD
6481 Peachtree Industrial Blvd.
Suite B
Doraville, GA 30360

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Federal Center, Bldg. 810
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Denver, CO 80225

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ILLUSTRATION

Figure 1.--Potentiometric surface of the Clayton aquifer in southwestern Georgia,
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CONVERSION FACTOR

<i>Multiply inch-pound unit</i>	<i>by</i>	<i>to obtain metric units</i>
	Flow	
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m ³ /s)

VERTICAL DATUM

Sea Level--In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level of 1929."

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ABSTRACT

The Clayton aquifer in southwestern Georgia consists of limestone and sand of Paleocene age (Clarke and others, 1984). The aquifer supplies more than 33 million gallons of water per day for agricultural and municipal use (Pierce and Kundel, 1990).

A potentiometric surface shows the level to which water would rise in tightly-cased wells that fully penetrate an aquifer. This report shows the potentiometric surface of the Clayton aquifer in southwestern Georgia.

During October 22-30, 1990, water-level measurements in 79 wells tapping the Clayton aquifer in southwestern Georgia, and stream elevations at 17 sites where the aquifer was under water-table conditions, were used to construct the potentiometric surface of the aquifer for October 1990. The potentiometric surface was mapped using contour lines of equal water-level altitude (fig. 1). The October 1990 potentiometric surface of the Clayton aquifer is representative of the annual low (or near low) water levels that occurred near the end of the irrigation season.

Maps showing the potentiometric surface of the Clayton aquifer in southwestern Georgia are prepared annually by the U.S. Geological Survey, in cooperation with the Georgia Department of Natural Resources, Environmental Protection Division, Georgia Geologic Survey; and the City of Albany, Water, Gas, and Light Commission. These maps are published in an annual report entitled, "Ground-Water Conditions in Georgia, 19XX."

REFERENCES

- Clarke, J.S., Faye, R.E., and Brooks, R., 1984, Hydrogeology of the Clayton aquifer of southwest Georgia: Georgia Geologic Survey Hydrologic Atlas 13, 6 sheets.
- Pierce, R.R., and Kundel, J.E., 1990, Georgia water supply and use; *in* Carr, J.E., Chase, E.B., Paulson, R.W., and Moody, D.W., *ed.*; National Water Summary, 1987, Hydrologic events and water supply and use: U.S. Geological Survey Water-Supply Paper 2350, p. 215-222.



EXPLANATION

— 100 — POTENTIOMETRIC CONTOUR--Shows altitude at which water level would have stood in tightly cased wells. Dashed where approximately located. Hachures indicate depressions. Contour interval 50 feet. Datum is sea level

DATA POINT

- Ground water--Altitude of water level in well
- ▲ Surface water--Location where stream and water-table altitudes are coincident. Altitude of stream surface is extrapolated from topographic contour map

Figure 1.--Potentiometric surface of the Clayton aquifer in southwestern Georgia, October 1990.